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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,290	07/27/2001	Kwok-Shun Cheng	MCA-437PC/US	8923

7590
Mykrolis Corporation
129 Concord Road
Billerica, MA 01821-4600

04/18/2007

EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/18/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/890,290

Applicant(s)

CHENG ET AL.

Examiner

Krishnan S. Menon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 38 and 65-83 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38 and 65 is/are allowed.
- 6) ☒ Claim(s) 66-83 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Claims 38, 65, and 66-83 are pending in the RCE of 4/2/07.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 75-77 and 80 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims recite broader limitations and/or different limitations or lack antecedent basis compared to the claim they depend from. Claim 66 is limited to hollow fiber membranes. Claim 75 broadens it by adding flat sheets and wound fibers. Claim 76 has pleated membrane, which is not hollow fiber, or at least applicant does not disclose a 'pleated hollow fiber membrane'. Claim 80 has flat sheet membrane which is selected from pleats, spirals and discs, which are also not hollow fiber membranes.

For examination purposes, claim 66 is assumed to recite the details of claim 75, ie., hollow fibers, flat sheet and wound filters.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 66 – 71, 75, 78 and 81-83 are rejected under 35 U.S.C. 102(b) as being anticipated by Muto et al (US 5,066,397).

Claims 66, 75: Muto teaches a hollow fiber filter cartridge (abstract, figures) having a unitary integral (abstract: unified) potting block with liquid seal between the inlet and outlet and the membranes such that all fluids pass through one or more membranes, potting material and the membrane are made of perfluorinated thermoplastic resins (column 4, lines 36-46).

Claim 67: shape is cylindrical – figures

Claim 68: seal prevent mixing of feed fluid with filtered fluid – see figures.

Claims 69-71: potting material has a lower melting point as claimed – column 6, line 10-34.

Claim 78: microporous – see example 1: 0.21 μm pore diameter.

Claims 81-83: the perfluorinated material is the same as claimed – column 4, lines 36-46.

2. Claims 66-83 are rejected under 35 U.S.C. 102(b) as being anticipated by Ashelin et al (US 5,154,827).

Claims 66-71: Ashelin teaches an all perfluorinated thermoplastic resin filter cartridge comprising a housing (of thermoplastic perfluorinated resin) having an inlet and an outlet (figures) and one or more membrane filters between the inlet and the outlet, sealing means (col 4 lines 43-48) forming a liquid-tight seal, integral filter (col 4

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lines 43-48), fluid must pass through one or more membrane filters from inlet to outside (see figures). The entire filter is of PFA (col 4 lines 39-42), with melting point of sealing material equal to or less than that of the membrane filter resin. Filters are cylindrical.

Claims 72-76: the filter has two surfaces with a porous wall in between – flat sheet (see abstract and figures). Pleated filter (see figures); material of membrane and sealing compound is PFA - col 4 lines 39-42. Unitary structure – the filter of the reference is identical to what is claimed.

Claims 77-83: Ashelin teaches an all thermoplastic fluoropolymer filter including pleated with support fabric (col 9 lines 32-43) as claimed, with the preferred polymer being PFA.

Filter is microporous or ultrafilter – see pore sizes that agree with applicant's disclosure – abstract. End caps are tightly joined and unitary – col 4 lines 43-48. PFA preferred – col 4 line 40.

Alkyl in PFA would be methyl or propyl – a generic chemical formula will anticipate a claimed species covered by the formula when the species can be at once envisaged from the formula: Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990). If one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula, the compound is anticipated. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic formula before any of the compounds can be "at once envisaged." One may look to the preferred embodiments to determine

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which compounds can be anticipated. In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962). Also, such PFA is commercially available.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 72-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muto et al (US 5,066,397) as in claim 66 above and further in view of Ashlin-827.

Claims 72-74 differ from the teaching of Muto in that Muto does not specifically teach the end cap as of perfluorinated thermoplastic polymer. Ashelin teaches making the entire filter with thermoplastic polymer with PFA as the preferred polymer – col 4 lines 30-42. It would be obvious to one of ordinary skill in the art at the time of invention to use the teaching of Ashelin in the teaching of Muto to have the entire filter module made of PFA because of the advantages of PFA such as the most inert with the highest temperature use with still being melt-processable as taught by Ashelin.

Allowable Subject Matter

Claims 38 and 65 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The closest prior arts are Kawai, Muto, Ashelin and EP-432. None of these references teach the "membrane" as a "depth filter formed of one or more wound fibers". References such as Degan (US 5,290,446) teach helically wrapped string wound depth filters made of, among many other materials, perfluorinated thermoplastics, but does not teach the housing, end caps and the sealing means also of such thermoplastics.

Conclusion

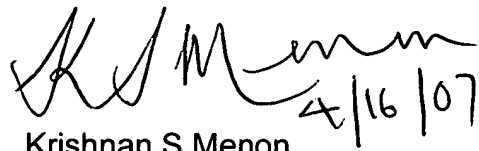
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S. Menon whose telephone number is 571-272-1143. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'K S Menon', with a date '4/16/07' written below it.

Krishnan S Menon
Primary Examiner
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